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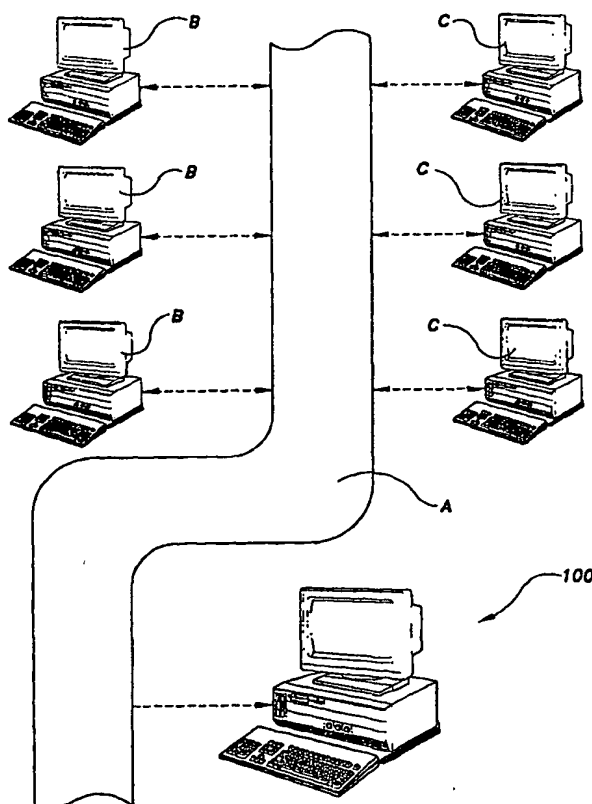
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Hampton House Apartments, Apartment 212, 10017 Lake
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Crystal City Station, P.O. Box 15035, Arlington, VA
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NE, SN, TD, TG).**Published***With international search report.***(54) Title:** BILLING PACKAGE FOR WEB PAGE UTILIZATION**(57) Abstract**

A billing package (100) for web page utilization which handles all web-based transactions for browsing and purchasing products, services, and/or data on the Internet (A). The software is designed to be loaded on an individual web or web server (B) for front ending of multiple domains and/or access to other domains through internet servers. The software deals with access to web pages, content viewing and product selection, billing the user for time spent browsing or number of pages downloaded, and acting as a broker for multiple product selections. The billing software package includes several modules, each of which handles different transactions for browsing and purchasing on the Internet.



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BILLING PACKAGE FOR WEB PAGE UTILIZATION**BACKGROUND OF THE INVENTION****1. FIELD OF THE INVENTION**

5 The present invention relates to a billing package intended for web page utilization. More specifically, the billing package (or module) handles all web-based transactions for browsing and purchasing materials and/or products on the Internet. This handling is based both on time in cyber-space and on the materials and/or products selected for download.

2. DESCRIPTION OF THE RELATED ART

15 Methods and systems for ordering merchandise from a remote terminal, as well as devices and systems for handling monetary transactions on the Internet and other communications networks, are known. What the prior art systems lack is a complete billing package that can handle all aspects of an Internet "shopping trip", including: guest and member registration; access to global web pages; content and product selection; billing for time spent in the system (or domain), or for pages downloaded; acting as a broker for multiple product selections; voice access telephone software (CTI) or (VOIP); security; and multilingual transactions. By combining all of the functions required into a single package, the present invention maximizes the effectiveness of existing Internet vendors and shoppers alike.

25 Some of the prior art methods and systems for ordering merchandise from a remote terminal are shown in the following patents. U.S. Patent No. 4,734,858, issued on March 29, 1988 to Schlafly, as well as WIPO Patent Document No. WO 85/02700 issued on June 20, 1985, are directed to a pocket size data terminal and system for placing orders telephonically via a local processing center (LPC). Orders for goods or services are accumulated in the terminal and sent to the local processing center (LPC) in a short burst. A personal

identification code is used for security. U.S. Patent No. 4,984,155, issued on January 8, 1991 to Geier et al., discusses a data terminal for ordering goods or services from a supplier. The terminal is part of an order entry system having catalog assistance, and is primarily used for product selection, inventory checking and ordering assistance.

U.S. Patent No. 5,515,268, issued on May 7, 1996 to Yoda, discloses a method and system for ordering products. A sensor detects a customer's size and a local computer system provides this sizing information to a remote computer system. The remote system provides fitting, availability and inventory information back to the local computer system. U.S. Patent No. 5,528,490, issued on June 18, 1996 to Hill, outlines an electronic catalog system and method. This invention deals primarily with availability, data updating and security (determining pirated accessing software). U.S. Patent No. 5,664,110, issued on September 2, 1997 to Green et al., discloses a remote ordering system that allows a users to construct one or more order lists in a local device (computer). The local device queries a remote device for updating, while still maintaining a user readable local order list.

U.S. Patent No. 5,745,681, issued on April 28, 1998 to Levine et al., teaches the concept of a stateless shopping cart for the web. This invention deals mainly with displaying and selecting products or services via "shopping cart fields" and "shopping page files" that are managed at the client's station.

Devices and systems for handling monetary transactions on the Internet and other communications networks, have been the subject of prior patents. U.S. Patent No. 5,475,585, issued on December 12, 1995 to Bush, discloses a transactional processing system which allows for real-time authorization of payments

for a plurality of products and services made available to individual computerized subscribers by a transmitting source ("a cable, telephone company, microwave, TVRO or DBS operator"). This system handles product or service selection, multiple vendors, billing, inventory checking and security using an electrically erasable Subscriber ID. U.S. Patent No. 5,508,913, issued on April 16, 1996 to Yamamoto et al., describes an electronic dealing system which performs foreign exchange transactions among banks and/or brokers by matching terms of sale and terms of purchase.

U.S. Patent No. 5,692,132, issued on November 25, 1997 to Hogan, describes a system and method for conducting cashless transactions on a computer network such as the Internet. The invention deals primarily with monetary transactions, specifically in the form of various methods of extending credit over the Internet without the use of a central computer. U.S. Patent No. 5,727,163, issued on March 10, 1998 to Bezos involves a secure method for communicating credit card data when placing an order on a non-secure network. The method uses a sub-set of the credit card number as a verification code.

None of the above inventions and patents, taken either singularly or in combination, is seen to describe the instant invention as claimed. Thus a billing package for web page utilization solving the aforementioned problems is desired.

SUMMARY OF THE INVENTION

The present invention is a software package which handles all web-based transactions for browsing and purchasing products, services, and/or data on the Internet. The software is designed to be loaded on an individual web or web server for front ending of multiple domains and/or access to other domains through internet servers. In this way, the package

has access to as many already written applications as possible for the transfer of data or voice. This access allows the software to deal with access to web pages, content viewing and product selection, billing the user for time spent browsing the web pages or pages downloaded, and acting as a broker for multiple product selections. The billing software package includes several "modules", each of which handles different transactions for browsing and purchasing on the Internet.

The access module handles: maintaining 'state' (user connection/reconnection to the server); a web domain database (initial and local) for user records and commerce records (including individual site products bought, commerce site products viewed, time to date (mall favorites and knowledge site favorites) list, membership discounts and specials (customized); spending/spent by both banking and direct debit (customized). The access module also handles global Internet functions such as digital or other ID verification systems, X-500 and other directory services, VPN cost routers, firewall and other access services.

The billing module handles: time and/or products or pages within domain or multi-domains (database records including archive and retrieval, merchant interaction by time and/or product, and ordering product); filter words and primary keys (VOIP ordering product, VOIP general telephone/fax calls, catalog browse/order and downloading for later viewing); and bank accounts, credit cards, credit/debit ratings, tax and foreign exchange (payment controls such as SET, SSL, Cybercash, Digicash, etc., invoice copy records control, shipping control and e-mail confirmation).

A user enters the software from an initial domain, and non-members are routed to a guest register where they are initiated into the system. After registering

and selecting a web, the user then enters terms or words to search for desired products, services, and/or data. Found products, services, and data are downloaded and the user browses through the downloaded products. While browsing, the user can process orders and select different domains. Once the order is compiled, catalog processing is handled for the different items. Should the user wish to continue in another mall, they are rerouted to browse. As long as the user continues to browse, the billing module updates the records to indicate elapsed time by on-line timing, or alternatively the number of pages downloaded. After the user is finished, payment processing is handled by the billing module. Product or multiple products are collected as one debit from the user, but handling of credits for each supplier is done separately. Membership in a particular domain may entitle the user to reduced costs or discounts or other promotions. After all of the above is considered, shipping is confirmed, the user is debited, and the vendors are credited. The user's records are then updated, time or page count is deducted, and any member credits are given.

Accordingly, it is a principal object of the invention to provide a billing package that handles all web-based transactions for browsing and purchasing materials and/or products on the Internet.

It is another object of the invention to provide a billing package that can handle multi-cash transactions as well as multi-currency transactions.

It is a further object of the invention to provide billing based on time in cyber-space as well as products or pages downloaded.

It is an object of the invention to provide improved elements and arrangements thereof for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic view showing the interconnection (via the world wide web) between the system of the present invention, the various customers using the system and the supplying vendors.

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Fig. 2 is a flow chart depicting the steps used by a customer while using the present invention.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is a billing software package which handles all web-based transactions for browsing and purchasing materials and/or products on the Internet. The billing is based on time in cyber-space and/or material/product(s) selected for download. In figure 1, a representative schematic view is shown of: the world wide web A; the "system" 100 of the present invention; the various web sites of supplying vendors or service providers B; the various customers C; and the interconnections therebetween. It should be noted that the different systems are shown as PCs simply to be representative, and that the business computers B would most likely be mainframe or internal networks themselves. To insure global reach and utilization, the computer software used in the present invention is designed to be loaded on an individual web (domain) or on a web server for front ending of multiple domains and/or access to other domains through internet servers.

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The software package of the present invention is designed to utilize as many already written

applications as possible, being able to provide "hooks" or "slots" for the transfer of data or voice. These hooks and slots allow the software to deal with access to web pages, content viewing and product selection, billing the user for access time spent within (browsing) the web pages or for pages downloaded, and acting as a broker for multiple product selections by conducting a simplified transaction for the user. While the software can be written in any language, the present code of the software program is in Java, with later porting to Active X and Visual Basic possible. While initially intended to be in English/American, software modules for Spanish and other languages are proposed. The billing software package includes several modules, each of which handles different transactions (including necessary "hooks" and "slots") for browsing and purchasing on the Internet.

The access module handles hooks for: maintaining 'state' (user connection/reconnection to the server); a web domain database (initial and local) for user records and commerce records, including individual site products bought, commerce site products viewed, time to date (mall favorites) list, membership discounts and specials (customized) and spending/spent by both banking and direct debit (customized). The access module also handles global Internet functions such as digital or other ID verification systems, X-500 and other directory services, VPN cost routers, firewall and other access services.

The billing module handles hooks for: time, and/or products within domain or multi-domains (database records including archive and retrieval, merchant interaction by time and/or product, and ordering product); pages downloaded; filter words and primary keys (VOIP ordering product, VOIP general telephone/fax calls, catalog browse/order and

downloading for later viewing). The billing module also handles bank accounts, credit cards, credit/debit ratings, tax and foreign exchange (payment controls such as SET, SSL, Cybercash, Digicash, etc., invoice copy records control, shipping control and e-mail confirmation).

Figure 2 is a flow chart illustrating the steps taken by a user operating within the billing software package of the present invention. At the top of the page the user enters the software from an initial domain, and is asked if they are a member. Non-members are routed to a guest register where they are initiated into the system. The membership process preferably requires a form of positive identification of the individual. This clearly establishes that the user is truly the individual stated. A variety of methods may be used. For example, the form may utilize biometric foundations, such as voice sounding, fingerprint imaging, or video imaging. A video imaging form may utilize retina scan, facial scan, or similar methods.

Members and non-members then select their name (generated in the guest register) and web. Upon selecting a web, the user's ID is checked by the billing module. Security for the software package including ID checks can be provided using PGP (pretty good privacy) shareware, trusted sites, Microsoft 128 key encryption code and Veri-sign for credit authority. The user then enters words and/or other terms to search for desired products, services, and data.

As found products, services, and data are downloaded (records update), the user has a choice of time billing or per page billing. The transmission of data is dependent upon throughput. Where the user has fast access and reliable throughput, the time billing option is generally preferred. If the user has poor

access and unreliable throughput, per page billing is generally preferred.

5 As the user browses through the downloaded products, on-line timing is activated for time billing. This operates with a clock to be set at a per minute/second counting depending on the instruction received from the browsed site.

10 Per page billing operates with a page counter. The page counter is set at each complete page downloaded from the instruction received from the browsed site. The page counter may be incremented in various ways, such as by linking to the user's return. The cost per page is U.S. dollars or other currency, set by the browsed site.

15 While browsing, the user can process orders and select different malls or knowledge sites (domains). Knowledge sites, for example, may be sites acting as repositories for published works, technical works, intellectual works, and library works.

20 VOIP processing and other voice and fax calls are handled for associated selected products. Once the order is compiled, catalog processing is handled for the different items. Should the user wish to continue in another mall, they are rerouted to browse. As long as the user continues to browse, the clock or page counter updates the records. For example, elapsed time may be indicated in one minute or one second blocks. After the user completes his shopping or other browsing, the timing or page counting is halted and final processing begins.

30 Payment processing is handled by the billing module and includes multi-cash transactions as well as multi-currency transactions that are handled by accessing web sites for conversion rates. Product or multiple products are collected as one debit from the user, but handling of credits, wires, fax calls, etc. for each supplier is done separately. Membership in a

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particular domain may entitle the user to reduced costs or discounts, or other promotional offerings. After all of the above is considered, shipping is confirmed, the user is debited, and the vendors are credited. Note: if a certain time or monetary limit has been introduced, (by the user or a creditor) a % applied output may be provided.

Prior to exiting the program, the user's records are updated, a billing stamp is recorded (time or page stamp), time or page is deducted according to the billing stamp, and any member credits are given. As with the products, time or page billing may be reduced for members of certain domains, as the billing is accrued as time in each domain or pages downloaded. In addition, buying products and/or services may accrue credit to the user in terms of free or reduced cost time or pages in the program.

It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

CLAIMS

1. A method of operating a billing package for browsing and purchasing products, services, and data on the Internet, said method comprising the steps of:

- providing an entrance to the billing package from an initial domain;

- querying users to indicate one of a member and a non-member status;

- if non-member status is indicated, routing the non-member to a guest register for initiation into the package;

- querying users to select a user name and a desired web;

- querying users for any required passwords;

- checking any passwords for accuracy;

- querying users to enter terms for desired products, services, and data;

- searching the desired web for the desired products, services, and data;

- selecting and activating a billing option, the billing option being selected from the group consisting of time billing and per page billing;

- downloading found desired products, services, and data to update the user's records;

- displaying the downloaded products, services, and data to allow the user to browse through the downloaded products, services, and data;

- processing and compiling any orders for products, services, and data the user selects while browsing;

- routing the user to any different domains the user requests while browsing;

- processing any required voice and fax calls for associated selected products and services;

- catalog processing the compiled orders for each selected product, service, and data;

routing the user to any different domain should the user wish to continue;

updating the user's records in accordance with the billing option selected as long as the user continues to browse;

ceasing billing once the user indicates they have completed, and recording a billing stamp;

processing payment including converting multi-currency transactions, collecting multiple products as one debit from the user, handling credits, wires, fax calls, and other services and products for each supplier separately; reducing any costs and calculating any discounts the user may be entitled to due to membership in the selected domains, debiting the user and crediting the vendors;

updating the user's records including deducting billing determined by the billing stamp and noting any member credits; and

exiting the program and routing the user to the initial domain.

2. The method of operating a billing package according to claim 1, wherein if the billing option selected is time billing:

said step of selecting and activating a billing option includes activating on-line timing for billing;

said step of updating the user's records in accordance with the billing option selected includes indicating elapsed time in blocks, the blocks being selected from the group consisting of one minute blocks and one second blocks;

said step of ceasing billing and recording a billing stamp includes ceasing timing and recording a time stamp; and

said step of updating the user's records including deducting billing determined by the billing stamp

includes deducting the user's records for time determined by the time stamp.

3. The method of operating a billing package according to claim 1, wherein if the billing option selected is per page billing:

said step of selecting and activating a billing option includes activating a page counter for billing;

said step of updating the user's records in accordance with the billing option selected includes setting the page counter for each page downloaded;

said step of ceasing billing and recording a billing stamp includes ceasing setting the page counter and recording a page stamp; and

said step of updating the user's records including deducting billing determined by the billing stamp includes deducting the user's records for pages determined by the page stamp.

4. The method of operating a billing package according to claim 1, wherein:

said method further comprises the step of providing security for the software package; and

said step of checking any passwords for accuracy further comprises accessing trusted sites, and processing digital IDs.

5. The method of operating a billing package according to claim 1, wherein:

said step of routing the non-member to a guest register for initiation into the package includes establishing a form of positive identification of the individual, said form of positive identification being selected from the group consisting of voice sounding, fingerprint imaging, and video imaging.

6. The method of operating a billing package according to claim 5, wherein the form of positive identification is video imaging, and the video imaging is selected from the group consisting of retina scans and facial scans.

7. The method of operating a billing package according to claim 1, wherein said method further comprises the step of:

if member status is indicated downloading member information including individual site products bought, commerce site products viewed, a domain mall favorites list, customized membership discounts and specials and customized spending listed by banking and direct debit.

8. The method of operating a billing package according to claim 2, wherein said method further comprises the step of:

if member status is indicated downloading member information including individual site products bought, commerce site products viewed, a domain mall favorites list, customized membership discounts and specials and customized spending listed by banking and direct debit.

9. The method of operating a billing package according to claim 8, wherein said steps of selecting and activating the billing option, updating the user's records in accordance with the billing option, and updating the user's records including deducting billing determined by the billing stamp further comprise:

noting time elapsed within each domain of several domains; and

updating the member's information to indicate time spent browsing in each domain.

10. The method of operating a billing package according to claim 9, said step of updating the user's records including deducting billing determined by the billing stamp further includes:

checking each domain the member had time elapsed within for membership with the domain;

checking products and services selected for any credit the member may be entitled to in terms of free and reduced cost time; and

updating the member's records to reflect the member's credits earned through membership and selecting promoted products and services.

11. The method of operating a billing package according to claim 1, wherein said step of catalog processing the compiled orders for each selected product, service and data further comprises downloading catalog information for later viewing by the user.

12. The method of operating a billing package according to claim 1, wherein said step of processing payment includes converting multi-currency transactions by accessing web sites for conversion rates.

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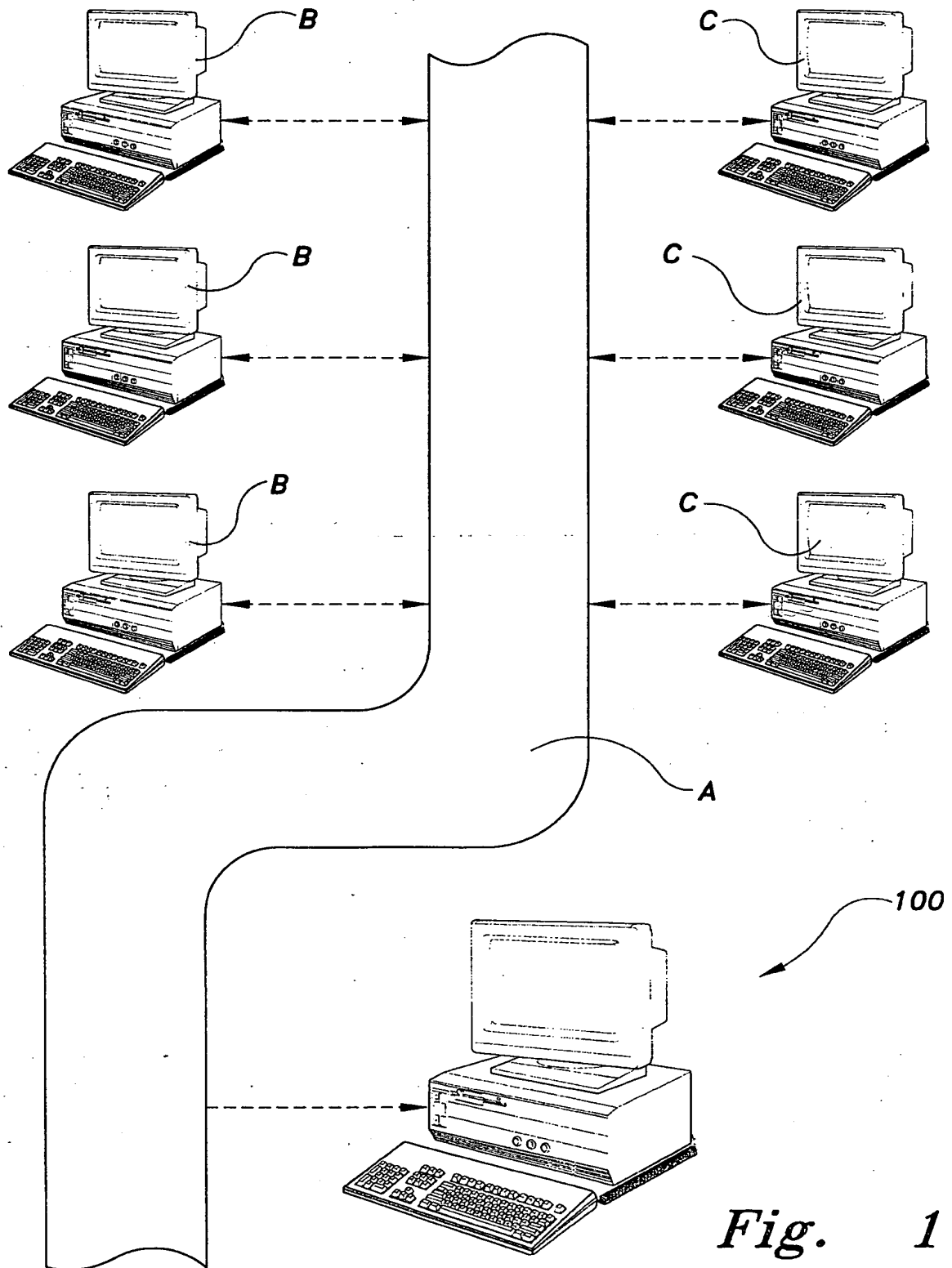


Fig. 1

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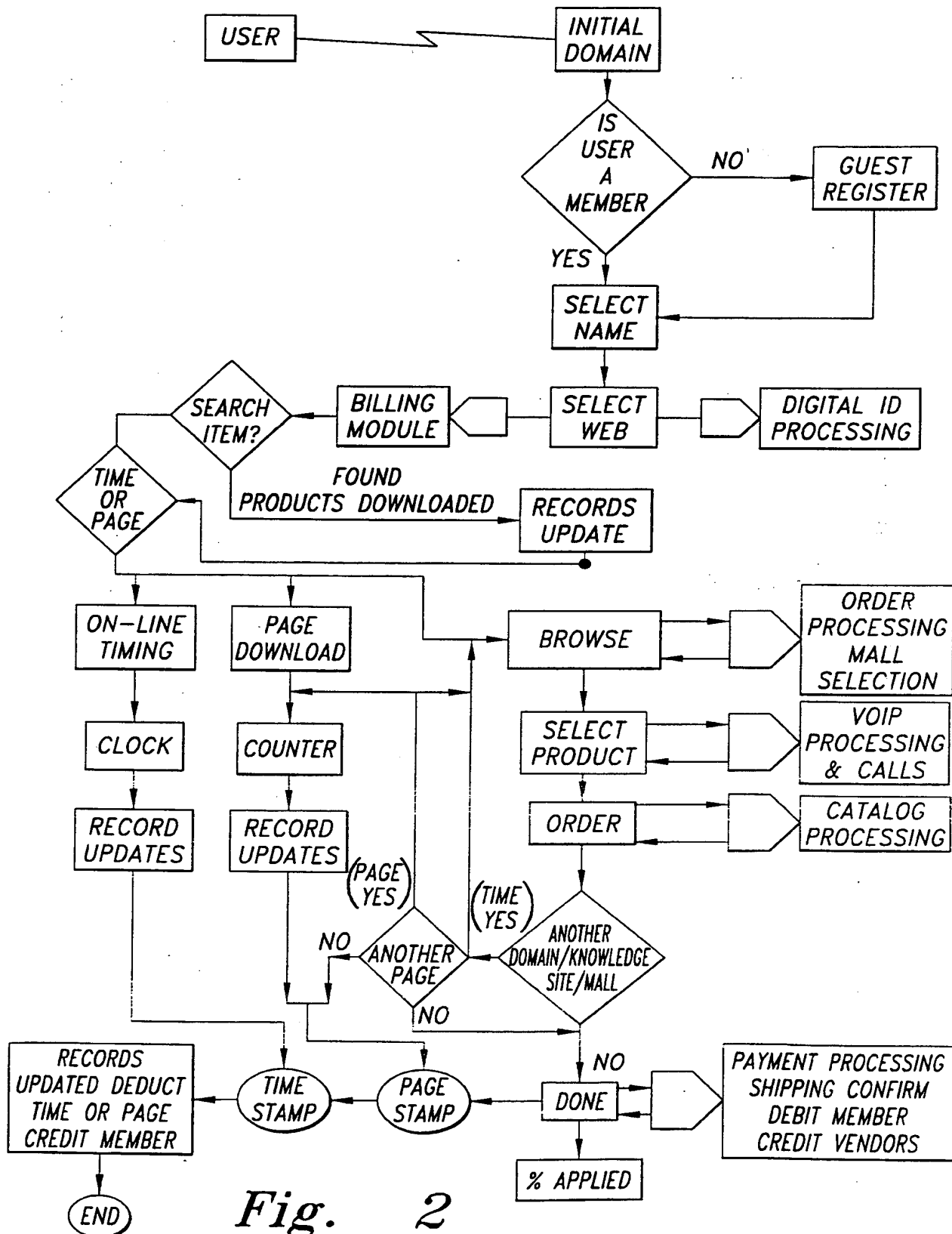


Fig. 2

INTERNATIONAL SEARCH REPORT

 International application No.
PCT/US99/05777

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06F 17/60

US CL : 705/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 1, 10, 27, 37, 28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
APS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,761,651 A (HASEBE et al) 02 June 1998 , see entire document.	1-12
Y	US 5,745,681 A (LEVINE et al) 28 April 1998 , see entire document.	1-12
A	US 5,897,621 A (BOESCH et al) 27 April 1999 , see entire document.	1-12
A	US 5,897,622 A (BLINN et al) 27 April 1999, see entire document.	1-12
Y	US 5,457,747 A (DREXLER et al) 10 October 1995, see entire document.	5-6



Further documents are listed in the continuation of Box C.



See patent family annex.

*

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Authorized officer

Todd Voeltz

Telephone No. (703) 305-9714